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7590 01/05/2004	EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 March 2000</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>09 March 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
           application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5,6,7*.	6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2.   Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender

(5,791,790).

3.   In accordance with claim 1, Bender discloses a printer 10 (figure 1), which can

store data received over a network 15 in an auxiliary storage device 128 (figure 2),

namely an internal hard disk (col. 8 lines 28-30).

4.   Bender further discloses communication processing means 11 (figure 1) for

receiving data via the network; in Bender's apparatus receives data over a LAN via an

internal network adapter INA1 (col. 2 lines 11-18).

5.   Bender further discloses image data generation means to interpret and generate

image data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

6.   Bender further discloses print processing means to print the image data; in

Bender's system, the printer controller controls the printing of the print engine (col. 7

lines 36-45).

7.   Bender further discloses detection means to detect the state in which the

received data is being processed; in Bender's system in step 252 (figure 4) the

apparatus checks to determine whether any fully buffered files are in the hard disk, and

in step 520 (figure 7A) the apparatus checks to determine whether a new job is arriving

at the input of the apparatus (col. 11 lines 25-27 and col. 16 lines 48-60).

8.   Bender further discloses a mode in which received data is stored in the auxiliary

storage; in this mode of Bender's system, received data entering the printer controller is

sent to the job buffering task 104, then to the disk write buffers 116, then to the hard

disk 128, then to the disk read buffer 136, then to the job buffering interface 102 before

being outputted (col. 9 lines 28-40). Bender further discloses a bypass mode, in which

received data is input to the image generation means, bypassing the auxiliary storage,

based upon the detection means; in this mode of Bender's system, if it is determined

that the disk read buffer 136 is available to accept new data, image data is sent directly

from the disk write buffers 116 to the disk read buffer 136, bypassing the hard drive (col.

9 lines 49-67).

9.   Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

10.   In accordance with claim 2, Bender further discloses that if data being processed

is stored in the auxiliary storage, the auxiliary storage mode is selected; in Bender's

system if data is stored in the hard drive 128, then some data would be being output

from the hard drive to the image generation means via the disk read buffer 136, thus if

the disk read buffer 136 is unavailable to accept to new data, the hard drive has data

stored on it, in which case Bender does not select bypass mode (col. 9 lines 49-53).

11.   Bender further discloses that if no data is being processed, i.e. the disk read

buffer 136 is available to accept new data, then the bypass mode is utilized (col. 9 lines

49-53).

12.   <u>Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.</u>

13.   In accordance with claim 3, Bender further discloses a first buffer memory (the

disk write buffer 116) between the communication means (port I/O bus 75) and the

auxiliary storage (hard disk 128) (figure 2 and col. 9 lines 17-19).

14.   Bender further discloses that the printer contains a second buffer memory (the

disk read buffer 136) between the auxiliary storage (hard disk 128) and the image

generation means (print engine 62) (col. 9 lines 30-36).

15.   Bender further discloses that the auxiliary storage mode and the bypass mode

are utilized based on the current state of any data being processed, namely whether or

not the disk read buffer 136 is available to accept new data (col. 9 liens 49-53).

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

17.   <u>Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in</u>

<u>view of Yonei.</u>

18.   In accordance with claim 4, Bender does not disclose expressly a first bypass mode, in which data is sent directly from the communication processing means to the second memory buffer for immediate printing.

19.   Yonei discloses a bypass mode, in which data bypasses the hard drive 108 by being sent directly from the communication processing means to a buffer 114a between the hard drive 108 and the generation means (page 3 lines 17-23).

20.   Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

21.   Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to use the bypass mode disclosed by Yonei in Bender's system. The motivation for doing so would have been to print jobs faster, as transferring data from the network directly to image generation means saves the time it takes to read and write data to the hard drive.

22.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Yonei.

23.   In accordance with claim 5, Yonei discloses that the bypass mode be used only after it has been determined that no data is stored in the auxiliary storage 108 (page 3 lines 17-21) and Bender discloses that a bypass mode be used only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53).

24.   Bender and Yonei are combinable because they are from the same field of

endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing

auxiliary storage.

25.   Both Bender and Yonei disclose that the bypass mode of their respective

apparatuses is switched to only when it has been determined that no image data is

already being processed by the apparatus; in Bender's system, the bypass mode is

switched to only after ensuring that the disk read buffer 136 is available to accept new

data, which implies that both the disk read buffer 136 and the hard drive 128 are empty,

as described above (col. 9 lines 49-53). In Yonei's system, the bypass mode is

switched to only after ensuring that no unprocessed print data is being spooled in the

hard disk unit 108 (page 3 lines 17-21). Thus from these teachings that the bypass

mode of operation can only be utilized when there is no data already being processed

by the apparatus, it would have been obvious to a person of ordinary skill in the art to

use the bypass mode only after checking the contents of the first buffer memory (disk

write buffer 116) to ensure it was empty. The motivation for doing so would have been

to ensure that no data is being processed by the apparatus prior to switching to bypass

mode.

26.   <u>Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in

view of Yonei.</u>

27.   In accordance with claim 6, Yonei addresses the size of second buffer by stating

that if the capacity of the second buffer is not enough, the data can be stored across a

plurality of designated buffers, effectively allowing the size of the second buffer to be

increased as needed (page 3 line 24 – page 4 line 2). Therefore, claim 6 is rejected.

Claim Rejections - 35 USC § 102

28.   Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

29.   In accordance with claim 7, Bender further discloses a bypass mode, in which

data is transferred directly between the first buffer memory 116 (disk write buffer) and

the second buffer memory 136 (disk read buffer) (figure 2 and col. 9 lines 49-67).

30.   Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

31.   In accordance with claim 8, Bender further discloses a bypass mode, in which

data is transferred directly between the first buffer memory 116 (disk write buffer) and

the second buffer memory 136 (disk read buffer) (figure 2 and col. 9 lines 49-67),

Bender first checks to ensure that the second buffer memory 136 (disk read buffer) is

empty (col. 9 lines 49-53).

Claim Rejections - 35 USC § 103

32.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in

view of Heart (4,130,865).

33.   In accordance with claim 9, Bender does not disclose expressly that the second

bypass mode be realized by transposing the memory block of the first buffer and an

empty memory block of the second buffer, although Bender does disclose that the

second bypass mode be realized by transferring data directly from the first buffer (disk

write buffer 116) to the second buffer (disk read buffer 136) (col. 9 lines 49-67). Heart

discloses that memory addresses can be transposed when transferring data from one

location to another (col. 4 lines 52-57).

34.   Bender is combinable with Heart because they are from similar problem solving

areas, namely transferring data from one memory to another.

35.   Therefore, at the time of invention, it would have been obvious to a person of

ordinary skill in the art to allow data to be sent from one buffer to another by transposing

memory blocks as taught in Heart (col. 4 lines 52-57). The motivation for doing so

would have been to get data from one buffer to another quickly.

36.   <u>Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender</u>

<u>in view of Yonei in further view of Heart.</u>

37.   In accordance with claim 10, Bender meets all the limitations of claims 7 and 8,

and Bender and Heart combine to meet all the limitations of claim 9, from which claim

10 may depend.

38.   In further accordance with claim 10, Yonei discloses that the bypass mode be

used only after it has been determined no data is stored in the auxiliary storage 108

(page 3 lines 17-21). Bender discloses that a bypass mode be used only if the disk

read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Bender further

discloses that the bypass mode is used only if a memory block storing data exists in the

first buffer memory (disk write buffer 116); in Bender's system the bypass mode is used

by sending data from the disk write buffer 116 (first buffer memory) to the disk read

buffer 136 (second buffer memory) (col. 9 lines 49-53), obviously, in order to transfer

data from the first buffer to the second, there must be data in the first buffer.

39.   Bender and Yonei are combinable for reasons already given above.

40.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender
in view of Yonei.

41.   In accordance with claim 11, Yonei discloses a bypass mode, like the first bypass
mode, in which the communication processing means stores data in a buffer 114a
between image generation means and the hard drive 108, as described above (page 3
lines 17-23). Bender discloses a bypass model like the second bypass mode, in which
data stored in the first buffer (disk write buffer 116) is sent to the second buffer (disk
read buffer 136) (col. 9 lines 49-53).

42.   With respect to switching to the first bypass mode, Yonei discloses that the
bypass mode be used only after it has been determined no data is stored in the auxiliary
storage 108 (page 3 lines 17-21) and Bender discloses that a bypass mode be used
only if the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Both
Bender and Yonei disclose that the bypass mode of their respective apparatuses is
switched to only when it has been determined that no image data is already being
processed by the apparatus; in Bender's system, the bypass mode is switched to only
after ensuring that the disk read buffer 136 is available to accept new data, which
implies that both the disk read buffer 136 and the hard drive 128 are empty, as
described above (col. 9 lines 49-53). In Yonei's system, the bypass mode is switched to
only after ensuring that no unprocessed print data is being spooled in the hard disk unit
108 (page 3 lines 17-21). Thus from this teaching that the bypass mode of operation
can only be utilized when there is no data already being processed by the apparatus, it

would have been obvious to a person of ordinary skill in the art to use the bypass mode

only after checking the contents of the first buffer memory (disk write buffer 116) to

ensure it was empty. The motivation for doing so would have been to ensure that no .

data is being processed by the apparatus prior to switching to bypass mode.

43.   With respect to switching to the second bypass mode, Yonei discloses that the

bypass mode be used only after it has been determined no data is stored in the auxiliary

storage 108 (page 3 lines 17-21). Bender discloses that a bypass mode be used only if

the disk read buffer 136 (the second buffer) is empty (col. 9 lines 49-53). Bender further

discloses that the bypass mode is used only if a memory block storing data exists in the

first buffer memory (disk write buffer 116); in Bender's system the bypass mode is used

by sending data from the disk write buffer 116 (first buffer memory) to the disk read

buffer 136 (second buffer memory) (col. 9 lines 49-53), obviously, in order to transfer

data from the first buffer to the second, there must be data in the first buffer.

44.   Bender and Yonei are combinable because they are from the same field of

endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing

auxiliary storage.

45.   Therefore, it would have been obvious to one of ordinary skill in the art to add the

bypass mode taught by Yonei to the method Bender. The motivation for doing so would

have been to decrease printing time, by saving the time it takes to transfer data to and

from the disk write buffer 116.

Claim Rejections - 35 USC § 102

46.   Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

47.   In accordance with claim 12, Bender discloses a printer 10 (figure 1), which can

store data received over a network 15 in an auxiliary storage device 128 (figure 2),

namely an internal hard disk (col. 8 lines 28-30).

48.   Bender further discloses communication processing means 11 (figure 1) for

receiving data via the network; in Bender's apparatus receives data over a LAN via an

internal network adapter INA1 (col. 2 lines 11-18).

49.   Bender further discloses writing means, the disk write buffer 116, for instructing

the auxiliary storage, hard disk 128, to store data input from the communication

processing means; in Bender's system print data received from the communication

means is sent to the job buffering task 104 (col. 9 lines 1-3), from there, the data are

sent to the disk write buffer 116 (col. 9 lines 3-5), from there, the disk write buffer 116 is

used to transfer data to the hard disk 128 (col. 9 lines 17-19).

50.   Bender further discloses reading means, the disk read buffer 136, for reading

data from the auxiliary storage, hard disk 128 (col. 9 lines 27-32).

51.   Bender further discloses image data generation means to interpret and generate

image data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

52.   Bender further discloses print processing means to print the image data; in

Bender's system, the printer controller controls the printing of the print engine (col. 7

lines 36-45).

53.   Bender further discloses detection means to detect the state in which the

received data is being processed; in Bender's system in step 252 (figure 4) the

apparatus checks to determine whether any fully buffered files are in the hard disk, and

in step 520 (figure 7A) the apparatus checks to determine whether a new job is arriving

at the input of the apparatus (col. 11 lines 25-27 and col. 16 lines 48-60).

54.   Bender further discloses a first buffer memory (the disk write buffer 116) between

the communication means (port I/O bus 75) and the writing means (figure 2 and col. 9

lines 17-19).

55.   Bender further discloses that the printer contains a second buffer memory (the

disk read buffer 136) between the auxiliary storage (hard disk 128) and the reading

means (col. 9 lines 30-36).

56.   Bender further discloses a mode in which data is received by communication

processing means 11 (figure 1 labeled INA1) (col. 6 lines 11-18). From there, data is

sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3). From there, data is sent

to the disk write buffer 116, i.e. the first buffer memory, which also functions as the

writing means as described above (col. 9 lines 3-5). From there, data is sent to the hard

disk 128 (col. 9 lines 17-19). From there, data is read by the disk write buffer 136, i.e.

the second buffer memory, which also functions as the reading means as described

above (col. 9 lines 28-32). From there data is transferred to the print engine 62, i.e. the

image generation means, following figure 2.

57.   Bender also discloses a bypass mode of operation, in which received image data

is input to the image data generation means without being input to the auxiliary storage;

in Bender's system, after data has been sent to the disk write buffer 116, as described

in the other mode of operation, the data can be sent directly to the disk read buffer 136,

bypassing the hard drive 128 (col. 9 lines 49-53). Bender further discloses that the

modes are switched based on the state in which each of the buffer memories are used

and the quantity of data in the auxiliary storage; in Bender's system the bypass mode is

only switched to if the disk read buffer 136 is empty, which also implies that the hard

disk 128 is empty, as described above, and when there is data in the first buffer

available to be transferred (col. 9 lines 49-53).

58.   Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Bender.

59.   In accordance with claim 13, Bender discloses a data processing method of

printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network

15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines

28-30).

60.   Bender further discloses a mode in which data passes through the hard drive

128, and a mode in which data bypasses the hard drive 128; in Bender's method, data

can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass

the hard drive during processing (col. 9 lines 49-53).

61.   For the mode in which data is stored in the hard drive, Bender discloses a step

for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives

information over the LAN 15 (col. 6 lines 11-18).

62.   Bender further discloses a step for storing received data in the hard drive 128; in

Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9

lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer

memory, and from there, data is sent to the hard disk 128 (col. 9 lines 17-19).

63.   Bender further discloses a step for reading the data in the hard drive 128; in

Bender's system, data is read by the disk write buffer 136, i.e. the second buffer

memory, (col. 9 lines 28-32).

64.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

65.   Bender further discloses a step for printing based on the image data; in Bender's

system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

66.   For the mode in which data bypasses the hard drive, Bender discloses a step for

receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives

information over the LAN 15 (col. 6 lines 11-18). In Bender's bypass mode, only the

step of storing data on the hard drive 128 is skipped (col. 9 lines 49-53).

67.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

68.   Bender further discloses a step for printing based on the image data; in Bender's

system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

Claim Rejections - 35 USC § 103

69.   Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of .

70.   In accordance with claim 14, Bender discloses a data processing method of printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

71.   Bender further discloses a mode in which data passes through the hard drive 128, and a mode in which data bypasses the hard drive 128; in Bender's method, data can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass the hard drive during processing (col. 9 lines 49-53).

72.   For the mode in which data is stored in the hard drive, Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18).

73.   Bender further discloses a step for storing received data in the hard drive 128; in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory, and from there, data is sent to the hard disk 128 (col. 9 lines 17-19).

74.   Bender further discloses a step for reading the data in the hard drive 128; in Bender's system, data is read by the disk write buffer 136, i.e. the second buffer memory, (col. 9 lines 28-32).

75.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

76.   Bender further discloses a step for printing based on the image data; in Bender's

system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

77.   For the mode in which data bypasses the hard drive (the second bypass mode),

Bender discloses a step for receiving data over the network; in Bender's method, INA 1

(11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18). In Bender's

bypass mode, only the step of storing data on the hard drive 128 is skipped (col. 9 lines

49-53).

78.   Bender further discloses a step for storing received data in the first buffer

memory (disk write buffer 116); in Bender's system received data is sent to the job

buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write

buffer 116, i.e. the first buffer memory (col. 9 lines 3-5).

79.   Bender further discloses a step for extracting data from the first buffer memory

(disk write buffer 116) to the second buffer memory (disk read buffer 136); in Bender's

system data is sent from the disk write buffer 116 to the disk read buffer 136 in the

bypass mode (col. 9 lines 49-53).

80.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

81.   Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

82.   Bender does not disclose expressly an alternative bypass mode. However, Yonei discloses a different bypass mode, which corresponds to the first bypass mode.

83.   For the other mode in which data bypasses the hard drive (the first bypass mode), Yonei discloses a step for receiving data over the network; in Yonei's method, the printer 1 receives information over the network 2 (page 1 lines 5-10).

84.   Yonei further discloses a step for storing this received data in the second memory buffer, in Yonei's method, data is sent directly to buffer 114a for immediate printout in the bypass mode (page 3 lines 19-24).

85.   Yonei further discloses a step for extracting data from the buffer to interpret it and generate image data; in Yonei's system, the data in the buffer is then developed into a bit map (page 4 lines 22-23).

86.   Yonei further discloses a step for printing the data based upon the image data (page 5 line 9).

87.   Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

88.   Therefore, it would have been obvious to one of ordinary skill in the art to add the bypass mode taught by Yonei to the method Bender. The motivation for doing so would

have been to decrease printing time, by saving the time it takes to transfer data to and from the disk write buffer 116.

89.   Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yonei in view of Bender in further view of Heart.

90.   In accordance with claim 15, Bender discloses a data processing method of printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

91.   Bender further discloses a mode in which data passes through the hard drive 128, and a mode in which data bypasses the hard drive 128; in Bender's method, data can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass the hard drive during processing (col. 9 lines 49-53).

92.   For the mode in which data is stored in the hard drive, Bender discloses a step for receiving data over the network; in Bender's method, INA 1 (11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18).

93.   Bender further discloses a step for storing received data in the hard drive 128; in Bender's system received data is sent to the job buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write buffer 116, i.e. the first buffer memory, and from there, data is sent to the hard disk 128 (col. 9 lines 17-19).

94.   Bender further discloses a step for reading the data in the hard drive 128; in Bender's system, data is read by the disk write buffer 136, i.e. the second buffer memory, (col. 9 lines 28-32).

95.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-

45).

96.   Bender further discloses a step for printing based on the image data; in Bender's

system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

97.   For the mode in which data bypasses the hard drive (the second bypass mode),

Bender discloses a step for receiving data over the network; in Bender's method, INA 1

(11 figure 1) receives information over the LAN 15 (col. 6 lines 11-18). In Bender's

bypass mode, only the step of storing data on the hard drive 128 is skipped (col. 9 lines

49-53).

98.   Bender further discloses a step for storing received data in the first buffer

memory (disk write buffer 116); in Bender's system received data is sent to the job

buffering task 104 (figure 2 and col. 9 lines 1-3), from there, data is sent to the disk write

buffer 116, i.e. the first buffer memory (col. 9 lines 3-5).

99.   Bender further discloses a step for extracting data from the first buffer memory

(disk write buffer 116) to the second buffer memory (disk read buffer 136); in Bender's

system data is sent from the disk write buffer 116 to the disk read buffer 136 in the

bypass mode (col. 9 lines 49-53).

100.   Bender further discloses a step for interpreting the data and generating image

data; in Bender's system the print controller "interprets incoming print jobs" and

generates image data from the interpreted data to drive the print engine (col. 7 lines 36-45).

101. Bender further discloses a step for printing based on the image data; in Bender's system, the printer controller controls the printing of the print engine (col. 7 lines 36-45).

102. Bender does not disclose expressly that in this bypass mode data is transposed between the first buffer and the second buffer, although Bender does disclose that the second bypass mode be realized by transferring data directly from the first buffer (disk write buffer 116) to the second buffer (disk read buffer 136) (col. 9 lines 49-67). Heart discloses that memory addresses can be transposed when transferring data from one location to another (col. 4 lines 52-57).

103. Bender is combinable with Heart because they are from similar problem solving area, namely transferring data from one memory to another.

104. Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to allow data to be sent from one buffer to another by transposing memory blocks as taught in Heart (col. 4 lines 52-57). The motivation for doing so would have been to get data from one buffer to another quickly.

105. Bender does not disclose expressly an alternative bypass mode. However, Yonei discloses a different bypass mode, which corresponds to the first bypass mode.

106. For the other mode in which data bypasses the hard drive (the first bypass mode), Yonei discloses a step for receiving data over the network; in Yonei's method, the printer 1 receives information over the network 2 (page 1 lines 5-10).

107.   Yonei further discloses a step for storing this received data in the second memory buffer, in Yonei's method, data is sent directly to buffer 114a for immediate printout in the bypass mode (page 3 lines 19-24).

108.   Yonei further discloses a step for extracting data from the buffer to interpret it and generate image data; in Yonei's system, the data in the buffer is then developed into a bit map (page 4 lines 22-23).

109.   Yonei further discloses a step for printing the data based upon the image data (page 5 line 9).

110.   Bender and Yonei are combinable because they are from the same field of endeavor, namely printing apparatuses with auxiliary storage and modes of bypassing auxiliary storage.

111.   Therefore, it would have been obvious to one of ordinary skill in the art to add the bypass mode taught by Yonei to the method Bender. The motivation for doing so would have been to decrease printing time, by saving the time it takes to transfer data to and from the disk write buffer 116.

112.   <u>Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender in view of Kawamata (4,989,163).</u>

113.   In accordance with claim 16, Bender discloses a data processing method of printer 10 (figure 1 and col. 1 lines 10-14), which can store data received over a network 15 in an auxiliary storage device 128 (figure 2), namely an internal hard disk (col. 8 lines 28-30).

114.   Bender further discloses a mode in which data passes through the hard drive

128, and a mode in which data bypasses the hard drive 128; in Bender's method, data

can be written to the hard drive during processing (col. 9 lines 28-32), or it can bypass

the hard drive during processing (col. 9 lines 49-53).

115.   Bender does not disclose expressly that there is at least a predetermined part at

the head of a print job data that is transferred in the bypass mode, with the rest of the

data transferred in the auxiliary storage mode. Kawamata discloses that image data

may be divided and sent to a printer in segments (col. 5 lines 24-30).

116.   Bender and Kawamata are combinable because they are from the same field of

endeavor, namely printing apparatuses with auxiliary storage methods.

117.   Therefore, at the time of invention, it would have been obvious to a person of

ordinary skill in the art to use the method of dividing image data, described in

Kawamata, to allow as much data as possible to bypass the auxiliary storage device, as

described in Bender. The motivation for doing so would be to decrease print processing

time as much as possible, by avoiding the time it takes to write to and read from the

hard drive.

118.   <u>Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bender</u>

<u>in view of Kawamata.</u>

119.   In accordance with claim 17, Bender discloses a communication processing

function 11 (figure 1) for receiving data via the network; in Bender's apparatus receives

data over a LAN via an internal network adapter.

120. Bender further discloses image data generation function to interpret and

generate image data; in Bender's system the print controller "interprets incoming print

jobs" and generates image data from the interpreted data to drive the print engine (col.

7 lines 36-45).

121. Bender further discloses print processing function to print the image data; in

Bender's system, the printer controller controls the printing of the print engine (col. 7

lines 36-45).

122. Bender further discloses detection function to detect the state in which the

received data is being processed; in Bender's system in step 252 (figure 4) the

apparatus checks to determine whether any fully buffered files are in the hard disk, and

in step 520 (figure 7A) the apparatus checks to determine whether a new job is arriving

at the input of the apparatus (col. 11 lines 25-27 and col. 16 lines 48-60).

123. Bender further discloses a mode in which received data is stored in the auxiliary

storage; in this mode of Bender's system, received data entering the printer controller is

sent to the job buffering task 104, then to the disk write buffers 116, then to the hard

disk 128, then to the disk read buffer 136, then to the job buffering interface before

being outputted (col. 9 lines 28-40). Bender further discloses a bypass mode, in which

received data is input to the image generation means, bypassing the auxiliary storage,

based upon the detection means; in this mode of Bender's system, if it is determined

that the disk read buffer 136 is available to accept new data, image data is sent directly

from the disk write buffers 116 to the disk read buffer 136, bypass the hard drive (col. 9

lines 49-67).

124.   Bender does not disclose expressly that this controlling method is implemented

via a record medium on which the program for executing the above functions is

recorded. Kawamata discloses using a recorded program to execute functions for

controlling a printing apparatus (abstract lines 5-10).

125.   Bender and Kawamata are combinable for reasons already given above.

Contact Information

126.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-

8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

127.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number

for the organization where this application or proceeding is assigned is (703) 872-9306.

128.   Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

9700.

KRR

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